In the claims

1. (amended) An antenna diversity receiving system comprising:

a receiver having a multipath detector coupled to a pulse generator for generating a pulse signal at the detection of multipath interference;

an antenna device including a plurality of FM antennas and a controllable switching circuit for sequentially switching through one of said plurality of FM antennas via an antenna cable to the receiver upon reception of a switching control signal; and

wherein the receiver includes a pulse shaper coupled to the pulse generator to convert the pulse signal of the pulse generator into a pulse signal pair having a first signal pulse followed by a second signal pulse having a signal polarity opposite to the signal polarity of the first signal pulse, the pulse signal pair having a waveform varying symmetrically around a reference level, the pulse signal pair having no DC signal energy and being supplied through the antenna cable to the antenna device.

2. (original) The antenna diversity receiving system according to claim 1, wherein the pulse signal of the pulse generator has a standard, substantially rectangular waveform, which varies during a first signal transient from a first signal level to a second signal level and during a second signal transient from the second signal level to the first signal level, and

wherein the pulse shaper further includes a signal differentiating circuit for differentiating the pulse signal of the pulse generator to form first and second pulse spikes having mutually opposite signal polarity occurring substantially during said first and second signal transients.

3. (original) An antenna diversity receiving system according to claim 2 wherein the signal differentiating circuit includes a first inductor coupled between an output resistance of the pulse generator and a reference voltage.

4. (original) An antenna diversity receiving system according to claim 1 wherein the pulse shaper is coupled to the antenna cable through a first FM blocking filter which suppresses signals within the frequency range of the FM RF broadcast frequency band.

5. (original) An antenna diversity receiving system according to claim 4 wherein the first FM blocking filter has a first parallel LC circuit having a resonance frequency substantially corresponding to the center frequency within the frequency range of the FM RF broadcast frequency band.

6. (original) An antenna diversity receiving system according claim 2 wherein the antenna device has a control signal detector having an input and an output, wherein the input is coupled to the antenna cable and supplies pulse signal pairs from the pulse shaper and the output is coupled to a control input of the controllable switching circuit, the control signal detector further including a threshold circuit providing a threshold level and generating a switching control signal pulse for the controllable switching circuit when the pulse signal pair occurring at the input of the control signal detector exceeds the threshold level.

7. (original) An antenna diversity receiving system according to claim 6, wherein the antenna device includes a counting device coupled between the control signal

detector and the control input of the controllable switching circuit having a counting cycle of counting values corresponding to the number of fixed antennas of the antenna device.

8. (original) An antenna diversity receiving system according to claim 6 wherein the antenna device includes a second FM blocking filter which suppresses signals within the frequency range of the FM RF broadcast frequency band.

9. (original) An antenna diversity receiving system according to claim 8 wherein the second FM blocking filter includes a second parallel LC circuit having a resonance frequency substantially corresponding to the center frequency within the frequency range of the FM RF broadcast frequency band.

10. (original) An antenna diversity receiving system according to claim 3 wherein the antenna device includes a second inductor DC coupled through the antenna cable in parallel to the first inductor, the second inductor being coupled between an input of the control signal detector and a bias reference voltage.

11. (amended) An antenna diversity receiving system ~~according to claim 1 further~~ comprising:

a receiver having a multipath detector coupled to a pulse generator for generating a pulse signal at the detection of multipath interference;

an antenna device including a plurality of FM antennas and a controllable switching circuit for sequentially switching through one of said plurality of FM antennas via an antenna cable to the receiver upon reception of a switching control signal;

wherein the receiver includes a pulse shaper coupled to the pulse generator to convert the pulse signal of the pulse generator into a pulse signal pair having a first signal pulse followed by a second signal pulse having a signal polarity opposite to the signal polarity of the first signal pulse, the pulse signal pair having a waveform varying symmetrically around a reference level and being supplied through the antenna cable to the antenna device;

an AM antenna coupled via the antenna cable to the receiver; and

an AM signal compensation circuit which having a first and second input and an output, the first input coupled to the antenna cable and the second input coupled to the AM antenna, the circuit compensating the AM signals occurring at the first input by the AM signals occurring at the second input thereof, said first and second input being respectively coupled to the antenna cable and the AM antenna, and the output coupled to the controllable switching circuit.

12. (original) An antenna diversity receiving system according to claim 11, wherein that the output of the AM signal compensation circuit is coupled through the control signal detector to the controllable switching circuit.

13. (original) An antenna diversity receiving system according to claim 11 further comprising an AM amplifier is coupled through an inverter stage to the second input of the AM signal compensation circuit and the AM signal compensation circuit includes an adder circuit which adds the signals at the first and second inputs.

14. (original) An antenna diversity receiving system according to claim 13 wherein the AM amplifier has a balanced amplifier having non-inverting and inverting output stages.

15. (original) An antenna diversity receiving system according to claim 13 further comprising:

a first high pass filter coupled between the AM signal amplifier and the first input of the AM signal compensation circuit; and

a second high pass filter coupled between the AM signal amplifier and the second input of the AM signal compensation circuit.

16. (original) An antenna diversity receiving system according to claim 15 wherein the antenna device includes a second FM blocking filter which suppresses signals within the frequency range of the FM RF broadcast frequency band and a second inductor coupled to the antenna, wherein that the first high pass filter is coupled between the common connection of the second FM blocking filter and the second inductor.

17. (original) Antenna diversity receiving system according to claim 11 wherein each AM and FM antenna have a fixed predetermined aerial characteristic.

18. (original) An antenna diversity receiving system according to claim 17 wherein the fixed predetermined aerial characteristics of the FM antennas are chosen to provide a maximum aerial gain factor in mutually different directions.

19. (original) An antenna diversity receiving system according to claim 18, wherein the mutually differing directions of maximum aerial gain are chosen to cover an angular area, in which proper reception of an RF FM broadcast signal is most likely to occur.

20. (original) An antenna diversity receiving system according to claim 1 which is part of a receiver.

21. (original) An antenna diversity receiving system according claim 1 which is part of an antenna device.